OBJECTIVES:
This study will (1) determine the relationship between anterior (AP) and lateral (LAT) facial attractiveness and (2) identify anatomic features that may lead to discordance between frontal and lateral facial attractiveness.

INTRODUCTION:
The parameters that define frontal and lateral facial attractiveness have been well-defined and described in countless text. Despite immense work focused on rigorously quantifying metrics that define facial attractiveness, to the best of our knowledge, no study has examined whether a correlation exists between the anterior (AP) and lateral (LAT) facial attractiveness. This study will look at the correlation between AP and LAT image attractiveness scores to help characterize facial attractiveness from a new perspective.

METHODS:
- 240 frontal and lateral synthetic images were individually posted (Figure 1 A) on an internet-based rating website (Figure 1B).
- Internet-based focus groups were used to rate images individually on an attractiveness scale from 1 to 10. Scores stabilize after at least 600 ratings.

RESULTS:
- In Figure 2, the attractiveness scores for paired anterior (AP) and lateral (LAT) posterior portraits were plotted to examine whether a strong correlation exist (R²=0.75).
- Anterior (AP) facial images shown in Figure 3 are paired with their corresponding lateral (LAT) images to depict examples of strongly correlated pairs from the pool of synthetic portraits.

CONCLUSION:
- We found a stronger correlation between frontal and lateral facial images in the average to more attractive faces, suggesting that facial attractiveness may be consistently easier to identify than unattractiveness.
- Furthermore, specific facial landmarks that lead to greater discordance between frontal and lateral facial attractiveness scores were identified, suggesting that the correction of these landmarks may increase facial harmony and attractiveness.

REFERENCES:

Figure 1. (A) Representative images from pool of synthetic AP and LAT facial images. (B) Individual accounts (hotornot.com) created for each image to allow focus group evaluation.

Figure 2. Correlation between AP and LAT facial image attractiveness scores.

Figure 3. Strongly correlated AP and LAT images with increasing attractiveness scores from left to right (Range: 3.3-9.5).

Figure 4. The images are examples of AP and LAT images with either a weak or strong correlation. (A) and (D) demonstrate a strong correlation, while (B) and (C) demonstrate a weak correlation.

Figure 5. (A) Distribution of AP and LAT scores. (B) Percent difference between AP and LAT images in comparison to AP attractiveness scores.

Figure 6. Several AP/LAT pairs analyzed for discordance of facial features.

Table 1. Table illustrates different facial landmarks that are responsible for the discrepancies between AP and LAT attractiveness scores.